
Meeting Minutes

Meeting organized by Andrea Cavalli, Julien Poffet **Participants** Paolo Calafiura

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Subjects

- We explained to Mr. Calafiura the state of VML:
 - VML works only with VMware server 1.0
 - VML offers full, incremental and differential backups
 - VML is able to automatically download the VM from the CernVM website when requested or needed.
 - Functional tests have been made on VML 0.3.
- We talked about the work we will do during the next weeks:
 - To maximize the chances that VML will be used, it has to be easily installed on every platform. So we have to investigate how we can package VML and the libraries needed into an installer or a tarball with an installation script in order to provide a simple way to deploy VML on UNIX and Windows based system. Mr. Calafiura also advises us to discuss with Mr. Yao on how to make it work for Mac OS based system.
 - Investigate how we will make the environment backup.
 - The environment backup will probably save the whole home directory of the user and dump all the environment variables. Maybe we will also include in the backup other useful files like for instance, the history of the commands. Since Mr. Legget has made some job on how to save the ATLAS environment, Mr. Calafiura suggested us to talk with him about that.
 - It will be great if the user could manually include or exclude some directories of the virtual machine as part of the environment backup.
 - An environment entry will contain the information about the CernVM version. However, this should not be a constraint for opening the entry: if the user wants to open it on a different CernVM version, VML should let him do that. In this case, the user should be warned.
 - Make VML able to use more than one virtualization platform like Xen for instance
 - Instead of directly study how works Xen, we will certainly use Libvirt as an interface between VML and Xen.
 - The mechanism used by VML to take snapshots is tightly coupled with VMware server 1.0.
 - Now VMware released the version 2.0 of VMware server. We will test VML with this new version and make the changes needed in order to keep the compatibility.
 - Implementing the incremental and differential backups with Xen or other virtualization platforms may take a lot of time. Mr. Calafiura thinks that the environment backups would be more useful than the incremental and differential

ones. For this reason we will maybe not implement these kind of backup for the other virtualization platforms.

- When the physicists work inside the VM, a large number of files (for $\sim 2\text{GB}$) will be cached in the VM. This operation can take a long time because all the files are downloaded one by one. One solution may be to make a tar with all this files and put it with the environment backup. Of course the tar will be big but downloading a single big file is faster than downloading a lot of small files.